

Sequence Listing

<110> Baker, Kevin
 Botstein, David
 Eaton, Dan
 Ferrara, Napoleone
 Filvaroff, Ellen
 Gerritsen, Mary
 Goddard, Audrey
 Godowski, Paul
 Grimaldi, Christopher
 Gurney, Austin
 Hillan, Kenneth
 Kljavin, Ivar
 Napier, Mary
 Roy, Margaret
 Tumas, Daniel
 Wood, William

<120> SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
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<151> December 3, 1997

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<151> January 5, 1998

<150> 60/074,086
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<151> February 25, 1998

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<151> March 3, 1999

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<151> June 22, 1999

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35 40 45
Asp Asp Asp Asp Asp Glu Asp Asn Ser Leu Phe Pro Thr Arg Glu
50 55 60
Pro Arg Ser His Phe Phe Pro Phe Asp Leu Phe Pro Met Cys Pro
65 70 75
Phe Gly Cys Gln Cys Tyr Ser Arg Val Val His Cys Ser Asp Leu
80 85 90
Gly Leu Thr Ser Val Pro Thr Asn Ile Pro Phe Asp Thr Arg Met
95 100 105
Leu Asp Leu Gln Asn Asn Lys Ile Lys Glu Ile Lys Glu Asn Asp
110 115 120
Phe Lys Gly Leu Thr Ser Leu Tyr Gly Leu Ile Leu Asn Asn Asn
125 130 135
Lys Leu Thr Lys Ile His Pro Lys Ala Phe Leu Thr Thr Lys Lys
140 145 150
Leu Arg Arg Leu Tyr Leu Ser His Asn Gln Leu Ser Glu Ile Pro
155 160 165
Leu Asn Leu Pro Lys Ser Leu Ala Glu Leu Arg Ile His Glu Asn
170 175 180
Lys Val Lys Lys Ile Gln Lys Asp Thr Phe Lys Gly Met Asn Ala
185 190 195
Leu His Val Leu Glu Met Ser Ala Asn Pro Leu Asp Asn Asn Gly
200 205 210

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|-----------------|---------------------|-------------------------|-----|-----|-----|
| Ile Glu Pro Gly | Ala Phe Glu Gly Val | Thr Val Phe His Ile Arg | 215 | 220 | 225 |
| Ile Ala Glu Ala | Lys Leu Thr Ser Val | Pro Lys Gly Leu Pro Pro | 230 | 235 | 240 |
| Thr Leu Leu Glu | Leu His Leu Asp Tyr | Asn Lys Ile Ser Thr Val | 245 | 250 | 255 |
| Glu Leu Glu Asp | Phe Lys Arg Tyr Lys | Glu Leu Gln Arg Leu Gly | 260 | 265 | 270 |
| Leu Gly Asn Asn | Lys Ile Thr Asp Ile | Glu Asn Gly Ser Leu Ala | 275 | 280 | 285 |
| Asn Ile Pro Arg | Val Arg Glu Ile His | Leu Glu Asn Asn Lys Leu | 290 | 295 | 300 |
| Lys Lys Ile Pro | Ser Gly Leu Pro Glu | Leu Lys Tyr Leu Gln Ile | 305 | 310 | 315 |
| Ile Phe Leu His | Ser Asn Ser Ile Ala | Arg Val Gly Val Asn Asp | 320 | 325 | 330 |
| Phe Cys Pro Thr | Val Pro Lys Met Lys | Lys Ser Leu Tyr Ser Ala | 335 | 340 | 345 |
| Ile Ser Leu Phe | Asn Asn Pro Val Lys | Tyr Trp Glu Met Gln Pro | 350 | 355 | 360 |
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COLEMAN

<211> 954

<213> Hom

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35 40 45

Arg Gly Ala Ala Gly Cys Thr Phe Gly Gly Lys Val Tyr Ala Leu
50 55 60

Asp Glu Thr Trp His Pro Asp Leu Gly Gln Pro Phe Gly Val Met
65 70 75

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| Thr | Arg | Gly | Pro | Gly 95 | Arg | Val | Ser | Cys | Lys 100 | Asn | Ile | Lys | Pro | Glu 105 |
| Cys | Pro | Thr | Pro | Ala 110 | Cys | Gly | Gln | Pro | Arg 115 | Gln | Leu | Pro | Gly | His 120 |
| Cys | Cys | Gln | Thr | Cys 125 | Pro | Gln | Glu | Arg | Ser 130 | Ser | Ser | Glu | Arg | Gln 135 |
| Pro | Ser | Gly | Leu | Ser 140 | Phe | Glu | Tyr | Pro | Arg 145 | Asp | Pro | Glu | His | Arg 150 |
| Ser | Tyr | Ser | Asp | Arg 155 | Gly | Glu | Pro | Gly | Ala 160 | Glu | Glu | Arg | Ala | Arg 165 |
| Gly | Asp | Gly | His | Thr 170 | Asp | Phe | Val | Ala | Leu 175 | Leu | Thr | Gly | Pro | Arg 180 |
| Ser | Gln | Ala | Val | Ala 185 | Arg | Ala | Arg | Val | Ser 190 | Leu | Leu | Arg | Ser | Ser 195 |
| Leu | Arg | Phe | Ser | Ile 200 | Ser | Tyr | Arg | Arg | Leu 205 | Asp | Arg | Pro | Thr | Arg 210 |
| Ile | Arg | Phe | Ser | Asp 215 | Ser | Asn | Gly | Ser | Val 220 | Leu | Phe | Glu | His | Pro 225 |
| Ala | Ala | Pro | Thr | Gln 230 | Asp | Gly | Leu | Val | Cys 235 | Gly | Val | Trp | Arg | Ala 240 |
| Val | Pro | Arg | Leu | Ser 245 | Leu | Arg | Leu | Leu | Arg 250 | Ala | Glu | Gln | Leu | His 255 |
| Val | Ala | Leu | Val | Thr 260 | Leu | Thr | His | Pro | Ser 265 | Gly | Glu | Val | Trp | Gly 270 |
| Pro | Leu | Ile | Arg | His 275 | Arg | Ala | Leu | Ala | Ala 280 | Glu | Thr | Phe | Ser | Ala 285 |
| Ile | Leu | Thr | Leu | Glu 290 | Gly | Pro | Pro | Gln | Gln 295 | Gly | Val | Gly | Gly | Ile 300 |
| Thr | Leu | Leu | Thr | Leu 305 | Ser | Asp | Thr | Glu | Asp 310 | Ser | Leu | His | Phe | Leu 315 |
| Leu | Leu | Phe | Arg | Gly 320 | Leu | Leu | Glu | Pro | Arg 325 | Ser | Gly | Gly | Leu | Thr 330 |
| Gln | Val | Pro | Leu | Arg 335 | Leu | Gln | Ile | Leu | His 340 | Gln | Gly | Gln | Leu | Leu 345 |
| Arg | Glu | Leu | Gln | Ala 350 | Asn | Val | Ser | Ala | Gln 355 | Glu | Pro | Gly | Phe | Ala 360 |
| Glu | Val | Leu | Pro | Asn | Leu | Thr | Val | Gln | Glu | Met | Asp | Trp | Leu | Val |

| 365 | | | | | | | | | | 370 | | | | | 375 | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Leu | Gly | Glu | Leu | Gln | Met | Ala | Leu | Glu | Trp | Ala | Gly | Arg | Pro | Gly | | | | | |
| | | | | 380 | | | | | 385 | | | | | 390 | | | | | |
| Leu | Arg | Ile | Ser | Gly | His | Ile | Ala | Ala | Arg | Lys | Ser | Cys | Asp | Val | | | | | |
| | | | | 395 | | | | | 400 | | | | | 405 | | | | | |
| Leu | Gln | Ser | Val | Leu | Cys | Gly | Ala | Asp | Ala | Leu | Ile | Pro | Val | Gln | | | | | |
| | | | | 410 | | | | | 415 | | | | | 420 | | | | | |
| Thr | Gly | Ala | Ala | Gly | Ser | Ala | Ser | Leu | Thr | Leu | Leu | Gly | Asn | Gly | | | | | |
| | | | | 425 | | | | | 430 | | | | | 435 | | | | | |
| Ser | Leu | Ile | Tyr | Gln | Val | Gln | Val | Val | Gly | Thr | Ser | Ser | Glu | Val | | | | | |
| | | | | 440 | | | | | 445 | | | | | 450 | | | | | |
| Val | Ala | Met | Thr | Leu | Glu | Thr | Lys | Pro | Gln | Arg | Arg | Asp | Gln | Arg | | | | | |
| | | | | 455 | | | | | 460 | | | | | 465 | | | | | |
| Thr | Val | Leu | Cys | His | Met | Ala | Gly | Leu | Gln | Pro | Gly | Gly | His | Thr | | | | | |
| | | | | 470 | | | | | 475 | | | | | 480 | | | | | |
| Ala | Val | Gly | Ile | Cys | Pro | Gly | Leu | Gly | Ala | Arg | Gly | Ala | His | Met | | | | | |
| | | | | 485 | | | | | 490 | | | | | 495 | | | | | |
| Leu | Leu | Gln | Asn | Glu | Leu | Phe | Leu | Asn | Val | Gly | Thr | Lys | Asp | Phe | | | | | |
| | | | | 500 | | | | | 505 | | | | | 510 | | | | | |
| Pro | Asp | Gly | Glu | Leu | Arg | Gly | His | Val | Ala | Ala | Leu | Pro | Tyr | Cys | | | | | |
| | | | | 515 | | | | | 520 | | | | | 525 | | | | | |
| Gly | His | Ser | Ala | Arg | His | Asp | Thr | Leu | Pro | Val | Pro | Leu | Ala | Gly | | | | | |
| | | | | 530 | | | | | 535 | | | | | 540 | | | | | |
| Ala | Leu | Val | Leu | Pro | Pro | Val | Lys | Ser | Gln | Ala | Ala | Gly | His | Ala | | | | | |
| | | | | 545 | | | | | 550 | | | | | 555 | | | | | |
| Trp | Leu | Ser | Leu | Asp | Thr | His | Cys | His | Leu | His | Tyr | Glu | Val | Leu | | | | | |
| | | | | 560 | | | | | 565 | | | | | 570 | | | | | |
| Leu | Ala | Gly | Leu | Gly | Gly | Ser | Glu | Gln | Gly | Thr | Val | Thr | Ala | His | | | | | |
| | | | | 575 | | | | | 580 | | | | | 585 | | | | | |
| Leu | Leu | Gly | Pro | Pro | Gly | Thr | Pro | Gly | Pro | Arg | Arg | Leu | Leu | Lys | | | | | |
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| Gly | Phe | Tyr | Gly | Ser | Glu | Ala | Gln | Gly | Val | Val | Lys | Asp | Leu | Glu | | | | | |
| | | | | 605 | | | | | 610 | | | | | 615 | | | | | |
| Pro | Glu | Leu | Leu | Arg | His | Leu | Ala | Lys | Gly | Met | Ala | Ser | Leu | Met | | | | | |
| | | | | 620 | | | | | 625 | | | | | 630 | | | | | |
| Ile | Thr | Thr | Lys | Gly | Ser | Pro | Arg | Gly | Glu | Leu | Arg | Gly | Gln | Val | | | | | |
| | | | | 635 | | | | | 640 | | | | | 645 | | | | | |
| His | Ile | Ala | Asn | G | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gly | Ala | Glu | Gly | Val | Arg | Ala | Leu | Gly | Ala | Pro | Asp | Thr | Ala |
| | | | | 665 | | | | | 670 | | | | | 675 |
| Ser | Ala | Ala | Pro | Pro | Val | Val | Pro | Gly | Leu | Pro | Ala | Leu | Ala | Pro |
| | | | | 680 | | | | | 685 | | | | | 690 |
| Ala | Lys | Pro | Gly | Gly | Pro | Gly | Arg | Pro | Arg | Asp | Pro | Asn | Thr | Cys |
| | | | | 695 | | | | | 700 | | | | | 705 |
| Phe | Phe | Glu | Gly | Gln | Gln | Arg | Pro | His | Gly | Ala | Arg | Trp | Ala | Pro |
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| Asn | Tyr | Asp | Pro | Leu | Cys | Ser | Leu | Cys | Thr | Cys | Gln | Arg | Arg | Thr |
| | | | | 725 | | | | | 730 | | | | | 735 |
| Val | Ile | Cys | Asp | Pro | Val | Val | Cys | Pro | Pro | Pro | Ser | Cys | Pro | His |
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| Pro | Val | Gln | Ala | Pro | Asp | Gln | Cys | Cys | Pro | Val | Cys | Pro | Glu | Lys |
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| Gln | Asp | Val | Arg | Asp | Leu | Pro | Gly | Leu | Pro | Arg | Ser | Arg | Asp | Pro |
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| Gly | Glu | Gly | Cys | Tyr | Phe | Asp | Gly | Asp | Arg | Ser | Trp | Arg | Ala | Ala |
| | | | | 785 | | | | | 790 | | | | | 795 |
| Gly | Thr | Arg | Trp | His | Pro | Val | Val | Pro | Pro | Phe | Gly | Leu | Ile | Lys |
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| Cys | Ala | Val | Cys | Thr | Cys | Lys | Gly | Gly | Thr | Gly | Glu | Val | His | Cys |
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| Glu | Lys | Val | Gln | Cys | Pro | Arg | Leu | Ala | Cys | Ala | Gln | Pro | Val | Arg |
| | | | | 830 | | | | | 835 | | | | | 840 |
| Val | Asn | Pro | Thr | Asp | Cys | Cys | Lys | Gln | Cys | Pro | Val | Gly | Ser | Gly |
| | | | | 845 | | | | | 850 | | | | | 855 |
| Ala | His | Pro | Gln | Leu | Gly | Asp | Pro | Met | Gln | Ala | Asp | Gly | Pro | Arg |
| | | | | 860 | | | | | 865 | | | | | 870 |
| Gly | Cys | Arg | Phe | Ala | Gly | Gln | Trp | Phe | Pro | Glu | Ser | Gln | Ser | Trp |
| | | | | 875 | | | | | 880 | | | | | 885 |
| His | Pro | Ser | Val | Pro | Pro | Phe | Gly | Glu | Met | Ser | Cys | Ile | Thr | Cys |
| | | | | 890 | | | | | 895 | | | | | 900 |
| Arg | Cys | Gly | Ala | Gly | Val | Pro | His | Cys | Glu | Arg | Asp | Asp | Cys | Ser |
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| Leu | Pro | Leu | Ser | Cys | Gly | Ser | Gly | Lys | Glu | Ser | Arg | Cys | Cys | Ser |
| | | | | 920 | | | | | 925 | | | | | 930 |
| Arg | Cys | Thr | Ala | His | Arg | Arg | Pro | Pro | Glu | Thr | Arg | Thr | Asp | Pro |
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 <220>
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 gtattgatgc aaatgaaaag caagatggga gcaatttcac ctgtgtttgc 1250
 cttcctgggt atactggaga gctttgccag tccaagattg attactgcat 1300
 cctagacca tgagaaaatg gagcaacatg catttccagt ctgagtgat 1350
 tcacctgcca gtgtccagaa ggatacttcg gatctgcttg tgaagaaaag 1400
 gtggacccct ggcctcgtc tccgtgccag aacaacggca cctgctatgt 1450
 ggacggggtta cactttacct gcaactgcag cccgggcttc acagggccga 1500
 cctgtgcccc gcttattgac ttctgtgccc tcagccctg tgctcatggc 1550
 acgtgccga gctggggcac cagctacaaa tgctctgtg atccaggtta 1600
 ccatggcctc tactgtgagg aggaatataa tgagtgcctc tccgtccat 1650
 gctgaatgc agccacctgc agggacctcg ttaatggcta tgagtgtgtg 1700
 tgctggcag aatacaaagg aacacactgt gaattgtaca aggatccctg 1750
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 atggcacgtg catctgtgca cccgggttta caggtgaaga gtgacgacatt 1850
 gacataaatg aatgtgacag taaccctgc caccatggtg ggagctgcct 1900
 ggaccagccc aatggttata actgccactg cccgcatggt tgggtgggag 1950
 caaactgtga gatccacctc caatggaagt cggggcacat ggaggagagc 2000
 ctaccaaca tgccacggca ctccctctac atcatcattg gagccctctg 2050
 cgtggccttc atccttatgc tgatcctcct gatcgtgggg atttgccgca 2100
 tcagccgcat tgaataccag ggttcttcca ggccagccta tgaggagttc 2150
 tacaactgcc gcagcatcga cagcgagttc agcaatgcca ttgcatccat 2200
 ccggcatgcc aggtttggaa agaaatcccg gcctgcaatg tatgatgtga 2250
 gccccatgc ctatgaagat tacagtctg atgacaaacc cttggtcaca 2300
 ctgattaaaa ctaaagattt gtaatctttt tttggattat ttttcaaaaa 2350
 gatgagatac tacactcatt taaatatttt taagaaaata aaaagcttaa 2400
 gaaattttaa atgctagctg ctcaagagtt ttcagtagaa tatttaagaa 2450
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[illegible]

<211> 737

<213> Homo Sapien

Met Gln Pro Arg Arg Ala Gln Ala Pro Gly Ala Gln Leu Leu Pro
1 5 10 15

Ser Ser Leu Ala Asn Pro Val Pro Ala Ala Pro Leu Ser Ala Pro
35 40 45

Ser Arg Pro Glu Pro Asp Pro Gln His Pro Ala Pro Ala Gly Glu
65 70 75

Cys Gln Leu Val Ala Asp Pro Cys Ala Ser Asn Pro Cys His His
95 100 105

16

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Cys | Ile | Ser | 410 | Leu | Ser | Gly | Phe | 415 | Thr | Cys | Gln | Cys | Pro | Glu | 420 |
| Gly | Tyr | Phe | Gly | 425 | Ser | Ala | Cys | Glu | Glu | Lys | Val | Asp | Pro | Cys | Ala | 435 |
| Ser | Ser | Pro | Cys | 440 | Gln | Asn | Asn | Gly | Thr | Cys | Tyr | Val | Asp | Gly | Val | 450 |
| His | Phe | Thr | Cys | 455 | Asn | Cys | Ser | Pro | Gly | Phe | Thr | Gly | Pro | Thr | Cys | 465 |
| Ala | Gln | Leu | Ile | 470 | Asp | Phe | Cys | Ala | Leu | Ser | Pro | Cys | Ala | His | Gly | 480 |
| Thr | Cys | Arg | Ser | 485 | Val | Gly | Thr | Ser | Tyr | Lys | Cys | Leu | Cys | Asp | Pro | 495 |
| Gly | Tyr | His | Gly | 500 | Leu | Tyr | Cys | Glu | Glu | Glu | Tyr | Asn | Glu | Cys | Leu | 510 |
| Ser | Ala | Pro | Cys | 515 | Leu | Asn | Ala | Ala | Thr | Cys | Arg | Asp | Leu | Val | Asn | 525 |
| Gly | Tyr | Glu | Cys | 530 | Val | Cys | Leu | Ala | Glu | Tyr | Lys | Gly | Thr | His | Cys | 540 |
| Glu | Leu | Tyr | Lys | 545 | Asp | Pro | Cys | Ala | Asn | Val | Ser | Cys | Leu | Asn | Gly | 555 |
| Ala | Thr | Cys | Asp | 560 | Ser | Asp | Gly | Leu | Asn | Gly | Thr | Cys | Ile | Cys | Ala | 570 |
| Pro | Gly | Phe | Thr | 575 | Gly | Glu | Glu | Cys | Asp | Ile | Asp | Ile | Asn | Glu | Cys | 585 |
| Asp | Ser | Asn | Pro | 590 | Cys | His | His | Gly | Gly | Ser | Cys | Leu | Asp | Gln | Pro | 600 |
| Asn | Gly | Tyr | Asn | 605 | Cys | His | Cys | Pro | His | Gly | Trp | Val | Gly | Ala | Asn | 615 |
| Cys | Glu | Ile | His | 620 | Leu | Gln | Trp | Lys | Ser | Gly | His | Met | Ala | Glu | Ser | 630 |
| Leu | Thr | Asn | Met | 635 | Pro | Arg | His | Ser | Leu | Tyr | Ile | Ile | Ile | Gly | Ala | 645 |
| Leu | Cys | Val | Ala | 650 | Phe | Ile | Leu | Met | Leu | Ile | Ile | Leu | Ile | Val | Gly | 660 |
| Ile | Cys | Arg | Ile | 665 | Ser | Arg | Ile | Glu | Tyr | Gln | Gly | Ser | Ser | Arg | Pro | 675 |
| Ala | Tyr | Glu | Glu | 680 | Phe | Tyr | Asn | Cys | Arg | Ser | Ile | Asp | Ser | Glu | Phe | 690 |
| Ser | Asn | Ala | Ile | | Ala | Ser | Ile | Arg | His | Ala | Arg | Phe | Gly | Lys | Lys | |

695

700

705

Ser Arg Pro Ala Met Tyr Asp Val Ser Pro Ile Ala Tyr Glu Asp
 710 715 720

Tyr Ser Pro Asp Asp Lys Pro Leu Val Thr Leu Ile Lys Thr Lys
 725 730 735

Asp Leu

<210> 16

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide Probe

<400> 16

tgtaaaacga cggccagtta aatagacctg caattattaa tct 43

<210> 17

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide Probe

<400> 17

caggaaacag ctatgaccac ctgcacacct gcaaatecat t 41

<210> 18

<211> 508

<212> DNA

<213> Homo Sapien

<400> 18

ctctggaagg tcacggccac aggattccaa cagtgcctcc tcatagatgg 50

acgaaagtgt gacccccctt tcaggctttc aggggggactg gtctctctgg 100

aggagatgct cgccttgggg aataatcact ttattggttt tgtgaatgat 150

tctgtgacta agtctattgt ggctttgcgc ttaactctgg tggatgaagg 200

cagcacctgt gtgccggggg agagtcacgc aaatgacttg gactgttcag 250

gaaaaggaaa atgcaccacg aagccgtcag aggcaacttt ttctgtacc 300

tgtgaggagc agtacgtggg tactttctgt gaagaatacg atgcttgcca 350

gaggaaacct tgccaaaaca acgcgagctg tattgatgca aatgaaaagc 400

aagatgggag caatttcacc tgtgtttgcc ttctgggtta tactggagag 450

ctttgccaac cgaactgaga ttggagcgaa cgacctacac cgaactgaga 500



taggggag 508

<210> 19
<211> 508
<212> DNA
<213> Homo Sapien

<400> 19
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acgaaagtgt gacccccctt tcaggctttc agggggactg gtctctctgg 100
aggagatgct cgccttgggg aataatcact ttattggttt tgtgaatgat 150
tctgtgacta agtctattgt ggctttgctc ttaactcttg tggatgaagg 200
cagcacctgt gtgccggggg agagtcacgc aaatgacttg gagtggtcag 250
gaaaaggaaa atgcaccacg aagccgtcag aggcaacttt ttctgtacc 300
tgtgaggagc agtacgtggg tactttctgt gaagaatacg atgcttgcca 350
gaggaaacct tgccaaaaca acgcgagctg tattgatgca aatgaaaagc 400
aagatgggag caatttcacc tgtgtttgcc ttctgggta tactggagag 450
ctttgccaac cgaactgaga ttggagcgaa cgacctacac cgaactgaga 500
taggggag 508

<210> 20
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotide Probe

<400> 20
ctctggaagg tcacggccac agg 23

<210> 21
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 21
ctcagttcgg ttggcaaagc tctc 24

<210> 22
<211> 69
<212> DNA
<213> Artificial Sequence

<220>

0694364-033001

<223> Synthetic oligonucleotide probe

<400> 22

cagtgtctccc tcatagatgg acgaaagtgt gacccccctt tcaggcgaga 50

gcttttgccaa ccgaactga 69

<210> 23

<211> 1520

<212> DNA

<213> Homo Sapien

<400> 23

gctgagtctg ctgtctctgc tgctgtctgt ccagcctgta acctgtgctt 50

acaccacgcc agggcccccc agagccctca ccacgctggg cgccccaga 100

gcccacacca tgccgggcac ctacgtctcc tcgaccacac tcagtagtcc 150

cagcaccag ggctgcaag agcaggcacg ggccctgatg cgggacttcc 200

cgctcgtgga cggccacaac gacctgcccc tggtoctaag gcaggtttac 250

cagaaagggc tacaggatgt taacctgcgc aatttcagct acggccagac 300

cagcctggac aggcttagag atggcctcgt gggcgcccag ttctggtcag 350

cctatgtgcc atgccagacc caggaccggg atgcctgcg cctcaccctg 400

gagcagattg acctcatagc ccgcatgtgt gcctctatt ctgagctgga 450

gcttgtgacc tcggctaaag ctctgaacga cactcagaaa ttggcctgcc 500

tcacgggtgt agagggtggc cactcgtctg acaatagcct ctccatctta 550

cgtaccttct acatgctggg agtgcgttac ctgacgtca cccacacctg 600

caacacaccc tgggcagaga gctccgctaa gggcgctccac tctttctaca 650

acaacatcag cgggctgact gactttgggt agaagggtgg ggcagaaatg 700

aaccgcttgg gcatgatggg agacttatcc catgtctcag atgctgtggc 750

acggcggggc ctggaagtgt cacaggcacc tgtgatcttc tcccactcgg 800

ctgcccgggg tgtgtgcaac agtgctcgga atgttcctga tgacatctg 850

cagcttctga agaagaacgg tggcgtcgtg atggtgtctt tgtccatggg 900

agtaatacag tgcaacccat cagccaatgt gtccactgtg gcagatcact 950

tcgaccacat caaggctgtc attggatcca agttcatcgg gattgggtgga 1000

gattatgatg gggccggcaa attccctcag gggctggaag acgtgtccac 1050

ataccgggtc ctgatagagg agttgctgag tcgtggctgg agtgaggaa 1100

agcttcaggg tgtccttcgt ggaaacctgc tcgggtctt cagacaagtg 1150



gaaaaggtag aggaagaaaa caaatggcaa agccccttgg aggacaagtt 1200
cccggatgag cagctgagca gttcctgcc ctcgacctc tcacgtctgc 1250
gtcagagaca gagtctgact tcaggccagg aactcactga gattcccata 1300
cactggacag ccaagttacc agccaagtgg tcagtctcag agtcctcccc 1350
ccacatggcc ccagtccttg cagttgtggc caccttccca gtccttattc 1400
tgtggctctg atgacccagt tagtcctgcc agatgtcact gtagcaagcc 1450
acagacaccc cacaaaagttc cctgttgtg caggcacaaa tatttctga 1500
aataaatggt ttggacatag 1520

<210> 24

<211> 433

<212> PRT

<213> Homo Sapien

<400> 24

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Met | Pro | Gly | Thr | Tyr | Ala | Pro | Ser | Thr | Thr | Leu | Ser | Ser | Pro | Ser | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Gln | Gly | Leu | Gln | Glu | Gln | Ala | Arg | Ala | Leu | Met | Arg | Asp | Phe | |
| | | | 20 | | | | | | 25 | | | | | 30 | |
| Pro | Leu | Val | Asp | Gly | His | Asn | Asp | Leu | Pro | Leu | Val | Leu | Arg | Gln | |
| | | | 35 | | | | | 40 | | | | | | 45 | |
| Val | Tyr | Gln | Lys | Gly | Leu | Gln | Asp | Val | Asn | Leu | Arg | Asn | Phe | Ser | |
| | | | 50 | | | | | 55 | | | | | | 60 | |
| Tyr | Gly | Gln | Thr | Ser | Leu | Asp | Arg | Leu | Arg | Asp | Gly | Leu | Val | Gly | |
| | | | 65 | | | | | 70 | | | | | | 75 | |
| Ala | Gln | Phe | Trp | Ser | Ala | Tyr | Val | Pro | Cys | Gln | Thr | Gln | Asp | Arg | |
| | | | 80 | | | | | 85 | | | | | | 90 | |
| Asp | Ala | Leu | Arg | Leu | Thr | Leu | Glu | Gln | Ile | Asp | Leu | Ile | Arg | Arg | |
| | | | 95 | | | | | 100 | | | | | | 105 | |
| Met | Cys | Ala | Ser | Tyr | Ser | Glu | Leu | Glu | Leu | Val | Thr | Ser | Ala | Lys | |
| | | | 110 | | | | | 115 | | | | | | 120 | |
| Ala | Leu | Asn | Asp | Thr | Gln | Lys | Leu | Ala | Cys | Leu | Ile | Gly | Val | Glu | |
| | | | 125 | | | | | 130 | | | | | | 135 | |
| Gly | Gly | His | Ser | Leu | Asp | Asn | Ser | Leu | Ser | Ile | Leu | Arg | Thr | Phe | |
| | | | 140 | | | | | 145 | | | | | | 150 | |
| Tyr | Met | Leu | Gly | Val | Arg | Tyr | Leu | Thr | Leu | Thr | His | Thr | Cys | Asn | |
| | | | 155 | | | | | 160 | | | | | | 165 | |
| Thr | Pro | Trp | Ala | Glu | Ser | Ser | Ala | Lys | Gly | Val | His | Ser | Phe | Tyr | |
| | | | 170 | | | | | 175 | | | | | | 180 | |

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Asn | Ile | Ser | Gly | Leu | Thr | Asp | Phe | Gly | Glu | Lys | Val | Val | Ala | 185 | 190 | 195 |
| Glu | Met | Asn | Arg | Leu | Gly | Met | Met | Val | Asp | Leu | Ser | His | Val | Ser | 200 | 205 | 210 |
| Asp | Ala | Val | Ala | Arg | Arg | Ala | Leu | Glu | Val | Ser | Gln | Ala | Pro | Val | 215 | 220 | 225 |
| Ile | Phe | Ser | His | Ser | Ala | Ala | Arg | Gly | Val | Cys | Asn | Ser | Ala | Arg | 230 | 235 | 240 |
| Asn | Val | Pro | Asp | Asp | Ile | Leu | Gln | Leu | Leu | Lys | Lys | Asn | Gly | Gly | 245 | 250 | 255 |
| Val | Val | Met | Val | Ser | Leu | Ser | Met | Gly | Val | Ile | Gln | Cys | Asn | Pro | 260 | 265 | 270 |
| Ser | Ala | Asn | Val | Ser | Thr | Val | Ala | Asp | His | Phe | Asp | His | Ile | Lys | 275 | 280 | 285 |
| Ala | Val | Ile | Gly | Ser | Lys | Phe | Ile | Gly | Ile | Gly | Gly | Asp | Tyr | Asp | 290 | 295 | 300 |
| Gly | Ala | Gly | Lys | Phe | Pro | Gln | Gly | Leu | Glu | Asp | Val | Ser | Thr | Tyr | 305 | 310 | 315 |
| Pro | Val | Leu | Ile | Glu | Glu | Leu | Leu | Ser | Arg | Gly | Trp | Ser | Glu | Glu | 320 | 325 | 330 |
| Glu | Leu | Gln | Gly | Val | Leu | Arg | Gly | Asn | Leu | Leu | Arg | Val | Phe | Arg | 335 | 340 | 345 |
| Gln | Val | Glu | Lys | Val | Gln | Glu | Glu | Asn | Lys | Trp | Gln | Ser | Pro | Leu | 350 | 355 | 360 |
| Glu | Asp | Lys | Phe | Pro | Asp | Glu | Gln | Leu | Ser | Ser | Ser | Cys | His | Ser | 365 | 370 | 375 |
| Asp | Leu | Ser | Arg | Leu | Arg | Gln | Arg | Gln | Ser | Leu | Thr | Ser | Gly | Gln | 380 | 385 | 390 |
| Glu | Leu | Thr | Glu | Ile | Pro | Ile | His | Trp | Thr | Ala | Lys | Leu | Pro | Ala | 395 | 400 | 405 |
| Lys | Trp | Ser | Val | Ser | Glu | Ser | Ser | Pro | His | Met | Ala | Pro | Val | Leu | 410 | 415 | 420 |
| Ala | Val | Val | Ala | Thr | Phe | Pro | Val | Leu | Ile | Leu | Trp | Leu | | | 425 | 430 | |

<210> 25

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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 actcagaaat tggcctgcct catcggtgta gaggggtggcc actcgctgga 500
 caatagcctc tccatcttac gtaccttcta catgctggga gtgcgctacc 550
 tgacgctcac ccacacctgc aacacacctt gggcagagag ctccgctaag 600
 ggcgtccact ccttctacaa caacatcagc gggctgactg actttggtga 650
 gaagggtgtg gcagaaatga accgcctggg catgatggta gacttatccc 700
 atgtctcaga tgctgtggca cggcggggccc tggaagtgtc acaggcacct 750
 gtgatcttct cccactcggc tgcccgggggt gtgtgcaaca gtgctcgga 800
 tgttctgat gacatcctgc agcttctgaa gaagaacggt ggcgtcgtga 850
 tgggtgtcttt gtccatggga gtaatacagt gcaaccatc agccaatgtg 900
 tccactgtgg cagatcactt cgaccacatc aaggctgtca ttggatccaa 950
 gttcatcggg attggtggag attatgatgg ggccggcaaa ttccctcagg 1000
 ggctggaaga cgtgtccaca taccgggtcc tgatagagga gttgctgagt 1050
 cgtggctgga gtgaggaaga gcttcagggt gtcttctgtg gaaacctgct 1100
 gcggtctctc agacaagtgg aaaaggtaca ggaagaaaac aaatggcaaa 1150
 gcccttgga ggacaagttc ccggatgagc agctgagcag ttcttgccac 1200
 tccgacctct cagctctgcg tcagagacag agtctgactt caggccagga 1250
 actcactgag attcccatc actggacagc caagttacca gccaaagtgg 1300
 cagtctcaga gtctctcccc caccctgaca aaactcacac atgcccaccg 1350
 tgcccagcac ctgaactcct ggggggaccg tcagtcttcc tcttcccccc 1400
 aaaaccaag gacacc 1416

<210> 30
 <211> 446
 <212> PRT
 <213> Homo Sapien

<400> 30
 Met Pro Gly Thr Tyr Ala Pro Ser Thr Thr Leu Ser Ser Pro Ser
 1 5 10 15
 Thr Gln Gly Leu Gln Glu Gln Ala Arg Ala Leu Met Arg Asp Phe
 20 25 30
 Pro Leu Val Asp Gly His Asn Asp Leu Pro Leu Val Leu Arg Gln
 35 40 45
 Val Tyr Gln Lys Gly Leu Gln Asp Val Asn Leu Arg Asn Phe Ser

| 50 | | | | | | | | | | 55 | | | | 60 | | | |
|-----|-----|-----|-----|------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|------------|--|--|--|
| Tyr | Gly | Gln | Thr | Ser 65 | Leu | Asp | Arg | Leu | Arg 70 | Asp | Gly | Leu | Val | Gly 75 | | | |
| Ala | Gln | Phe | Trp | Ser 80 | Ala | Tyr | Val | Pro | Cys 85 | Gln | Thr | Gln | Asp | Arg 90 | | | |
| Asp | Ala | Leu | Arg | Leu 95 | Thr | Leu | Glu | Gln | Ile 100 | Asp | Leu | Ile | Arg | Arg 105 | | | |
| Met | Cys | Ala | Ser | Tyr 110 | Ser | Glu | Leu | Glu | Leu 115 | Val | Thr | Ser | Ala | Lys 120 | | | |
| Ala | Leu | Asn | Asp | Thr 125 | Gln | Lys | Leu | Ala | Cys 130 | Leu | Ile | Gly | Val | Glu 135 | | | |
| Gly | Gly | His | Ser | Leu 140 | Asp | Asn | Ser | Leu | Ser 145 | Ile | Leu | Arg | Thr | Phe 150 | | | |
| Tyr | Met | Leu | Gly | Val 155 | Arg | Tyr | Leu | Thr | Leu 160 | Thr | His | Thr | Cys | Asn 165 | | | |
| Thr | Pro | Trp | Ala | Glu 170 | Ser | Ser | Ala | Lys | Gly 175 | Val | His | Ser | Phe | Tyr 180 | | | |
| Asn | Asn | Ile | Ser | Gly 185 | Leu | Thr | Asp | Phe | Gly 190 | Glu | Lys | Val | Val | Ala 195 | | | |
| Glu | Met | Asn | Arg | Leu 200 | Gly | Met | Met | Val | Asp 205 | Leu | Ser | His | Val | Ser 210 | | | |
| Asp | Ala | Val | Ala | Arg 215 | Arg | Ala | Leu | Glu | Val 220 | Ser | Gln | Ala | Pro | Val 225 | | | |
| Ile | Phe | Ser | His | Ser 230 | Ala | Ala | Arg | Gly | Val 235 | Cys | Asn | Ser | Ala | Arg 240 | | | |
| Asn | Val | Pro | Asp | Asp 245 | Ile | Leu | Gln | Leu | Leu 250 | Lys | Lys | Asn | Gly | Gly 255 | | | |
| Val | Val | Met | Val | Ser 260 | Leu | Ser | Met | Gly | Val 265 | Ile | Gln | Cys | Asn | Pro 270 | | | |
| Ser | Ala | Asn | Val | Ser 275 | Thr | Val | Ala | Asp | His 280 | Phe | Asp | His | Ile | Lys 285 | | | |
| Ala | Val | Ile | Gly | Ser 290 | Lys | Phe | Ile | Gly | Ile 295 | Gly | Gly | Asp | Tyr | Asp 300 | | | |
| Gly | Ala | Gly | Lys | Phe 305 | Pro | Gln | Gly | Leu | Glu 310 | Asp | Val | Ser | Thr | Tyr 315 | | | |
| Pro | Val | Leu | Ile | Glu 320 | Glu | Leu | Leu | Ser | Arg 325 | Gly | Trp | Ser | Glu | Glu 330 | | | |
| Glu | Leu | Gln | Gly | Val 335 | Leu | Arg | Gly | Asn | Leu 340 | Leu | Arg | Val | Phe | Arg 345 | | | |

| | | | |
|---|-----|-----|-----|
| Gln Val Glu Lys Val Gln Glu Glu Asn Lys Trp Gln Ser Pro Leu | 350 | 355 | 360 |
| Glu Asp Lys Phe Pro Asp Glu Gln Leu Ser Ser Ser Cys His Ser | 365 | 370 | 375 |
| Asp Leu Ser Arg Leu Arg Gln Arg Gln Ser Leu Thr Ser Gly Gln | 380 | 385 | 390 |
| Glu Leu Thr Glu Ile Pro Ile His Trp Thr Ala Lys Leu Pro Ala | 395 | 400 | 405 |
| Lys Trp Ser Val Ser Glu Ser Ser Pro His Pro Asp Lys Thr His | 410 | 415 | 420 |
| Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser | 425 | 430 | 435 |
| Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr | 440 | 445 | |

<210> 31
 <211> 1790
 <212> DNA
 <213> Homo Sapien

<400> 31
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 cccggcagcg ccggccccat gcccgccggc cgccggggcc ccgcccacca 150
 atccgcgcgg cggcgcgcgc cgttgctgcc cctgctgctg ctgctctgcg 200
 tcctcggggc gccgcgagcc ggatcaggag ccacacagc tgtgatcagt 250
 ccccaggatc ccacgcttct catcggtccc tcctgctgg ccacctgctc 300
 agtgcacgga gaccaccag gagccaccgc cgagggcctc tactggacct 350
 tcaacgggag ccgcctgccc cctgagctct cccgtgtact caacgcctcc 400
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 gcctctatgt tggcctgccc ccagagaaac ccgtcaacat cagctgctgg 550
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 ggagaccttc ctccacacca actactccct caagtacaag cttaggtggg 650
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 tgccacatcc ccaaggacct ggctctcttt acgccctatg agatctgggt 750
 ggaggccacc aaccgcctgg gctctgcccg ctccgatgta ctcacgtgg 800

| | | | | | |
|-------------|-------------|------------|-------------|-------------|------|
| atatacctgga | tgtggtgacc | acggaccccc | cgccccgacgt | gcacgtgagc | 850 |
| cgcgctcgggg | gcctggagga | ccagctgagc | gtgcgctggg | tgtcgccacc | 900 |
| cgccctcaag | gatttcctct | ttcaagccaa | ataccagatc | cgctaccgag | 950 |
| tggaggacag | tgtggactgg | aaggtggtgg | acgatgtgag | caaccagacc | 1000 |
| tcttgccgcc | tggccggcct | gaaacccggc | accgtgtact | tcgtgcaagt | 1050 |
| gcgctgcaac | ccctttggca | tctatggctc | caagaaagcc | gggatctgga | 1100 |
| gtgagtggag | ccacccaca | gccgcctcca | ctccccgcag | tgagcgcccg | 1150 |
| ggcccggggc | gcggggcgctg | cgaaccgcgg | ggcggagagc | cgagctcggg | 1200 |
| gccggtgcgg | cgcgagctca | agcagttcct | gggctggctc | aagaagcacg | 1250 |
| cgtactgctc | caacctcagc | ttccgcctct | acgaccagtg | gcgagcctgg | 1300 |
| atgcagaagt | cgacaagac | ccgcaaccag | gacgagggga | tcttgccctc | 1350 |
| gggcagacgg | ggcacggcga | gaggtcctgc | cagataagct | gtagggggctc | 1400 |
| aggccaccct | ccctgccacg | tggagacgca | gaggccgaac | ccaaactggg | 1450 |
| gccacctctg | taccctcact | tcagggcacc | tgagccaccc | tcagcaggag | 1500 |
| ctgggggtggc | ccctgagctc | caacggccat | aacagctctg | actcccacgt | 1550 |
| gaggccacct | ttgggtgcac | cccagtgggt | gtgtgtgtgt | gtgtgaggggt | 1600 |
| tggttgagtt | gcctagaacc | cctgccaggg | ctgggggtga | gaaggggagt | 1650 |
| cattactccc | cattacctag | ggccctccca | aaagagtcct | tttaaataaa | 1700 |
| tgagctattt | aggtgctgtg | attgtgaaaa | aaaaaaaaaa | aaaaaaaaaa | 1750 |
| aaaaaaaaaa | aaaaaaaaaa | aaaaacaaaa | aaaaaaaaaa | | 1790 |

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<210> 32
<211> 422
<212> PRT
<213> Homo Sapien
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<211> 422

<212> PRT

<213> Homo Sapien

<400> 32

Met Pro Ala Gly Arg Arg Gly Pro Ala Ala Gln Ser Ala Arg Arg
1 5 10 15

| | | | |
|---|---|----|----|
| 1 | 5 | 10 | 15 |
|---|---|----|----|

Pro Pro Pro Leu Leu Pro Leu Leu Leu Leu Leu Cys Val Leu Gly
20 25 30

20 25 30

Ala Pro Arg Ala Gly Ser Gly Ala His Thr Ala Val Ile Ser Pro
35 40 45

35 40 45

Gln Asp Pro Thr Leu Leu Ile Gly Ser Ser Leu Leu Ala Thr Cys
50 55 60

50 55 60

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Val | His | Gly | Asp | Pro | Pro | Gly | Ala | Thr | Ala | Glu | Gly | Leu | Tyr |
| | | | | 65 | | | | | 70 | | | | | 75 |
| Trp | Thr | Leu | Asn | Gly | Arg | Arg | Leu | Pro | Pro | Glu | Leu | Ser | Arg | Val |
| | | | | 80 | | | | | 85 | | | | | 90 |
| Leu | Asn | Ala | Ser | Thr | Leu | Ala | Leu | Ala | Leu | Ala | Asn | Leu | Asn | Gly |
| | | | | 95 | | | | | 100 | | | | | 105 |
| Ser | Arg | Gln | Arg | Ser | Gly | Asp | Asn | Leu | Val | Cys | His | Ala | Arg | Asp |
| | | | | 110 | | | | | 115 | | | | | 120 |
| Gly | Ser | Ile | Leu | Ala | Gly | Ser | Cys | Leu | Tyr | Val | Gly | Leu | Pro | Pro |
| | | | | 125 | | | | | 130 | | | | | 135 |
| Glu | Lys | Pro | Val | Asn | Ile | Ser | Cys | Trp | Ser | Lys | Asn | Met | Lys | Asp |
| | | | | 140 | | | | | 145 | | | | | 150 |
| Leu | Thr | Cys | Arg | Trp | Thr | Pro | Gly | Ala | His | Gly | Glu | Thr | Phe | Leu |
| | | | | 155 | | | | | 160 | | | | | 165 |
| His | Thr | Asn | Tyr | Ser | Leu | Lys | Tyr | Lys | Leu | Arg | Trp | Tyr | Gly | Gln |
| | | | | 170 | | | | | 175 | | | | | 180 |
| Asp | Asn | Thr | Cys | Glu | Glu | Tyr | His | Thr | Val | Gly | Pro | His | Ser | Cys |
| | | | | 185 | | | | | 190 | | | | | 195 |
| His | Ile | Pro | Lys | Asp | Leu | Ala | Leu | Phe | Thr | Pro | Tyr | Glu | Ile | Trp |
| | | | | 200 | | | | | 205 | | | | | 210 |
| Val | Glu | Ala | Thr | Asn | Arg | Leu | Gly | Ser | Ala | Arg | Ser | Asp | Val | Leu |
| | | | | 215 | | | | | 220 | | | | | 225 |
| Thr | Leu | Asp | Ile | Leu | Asp | Val | Val | Thr | Thr | Asp | Pro | Pro | Pro | Asp |
| | | | | 230 | | | | | 235 | | | | | 240 |
| Val | His | Val | Ser | Arg | Val | Gly | Gly | Leu | Glu | Asp | Gln | Leu | Ser | Val |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Arg | Trp | Val | Ser | Pro | Pro | Ala | Leu | Lys | Asp | Phe | Leu | Phe | Gln | Ala |
| | | | | 260 | | | | | 265 | | | | | 270 |
| Lys | Tyr | Gln | Ile | Arg | Tyr | Arg | Val | Glu | Asp | Ser | Val | Asp | Trp | Lys |
| | | | | 275 | | | | | 280 | | | | | 285 |
| Val | Val | Asp | Asp | Val | Ser | Asn | Gln | Thr | Ser | Cys | Arg | Leu | Ala | Gly |
| | | | | 290 | | | | | 295 | | | | | 300 |
| Leu | Lys | Pro | Gly | Thr | Val | Tyr | Phe | Val | Gln | Val | Arg | Cys | Asn | Pro |
| | | | | 305 | | | | | 310 | | | | | 315 |
| Phe | Gly | Ile | Tyr | Gly | Ser | Lys | Lys | Ala | Gly | Ile | Trp | Ser | Glu | Trp |
| | | | | 320 | | | | | 325 | | | | | 330 |
| Ser | His | Pro | Thr | Ala | Ala | Ser | Thr | Pro | Arg | Ser | Glu | Arg | Pro | Gly |
| | | | | 335 | | | | | 340 | | | | | 345 |
| Pro | Gly | Gly | Gly | Ala | Cys | Glu | Pro | Arg | Gly | Gly | Glu | Pro | Ser | Ser |

| | | |
|---|-----|-----|
| 350 | 355 | 360 |
| Gly Pro Val Arg Arg Glu Leu Lys Gln Phe Leu Gly Trp Leu Lys | | |
| 365 | 370 | 375 |
| Lys His Ala Tyr Cys Ser Asn Leu Ser Phe Arg Leu Tyr Asp Gln | | |
| 380 | 385 | 390 |
| Trp Arg Ala Trp Met Gln Lys Ser His Lys Thr Arg Asn Gln Asp | | |
| 395 | 400 | 405 |
| Glu Gly Ile Leu Pro Ser Gly Arg Arg Gly Thr Ala Arg Gly Pro | | |
| 410 | 415 | 420 |
| Ala Arg | | |

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 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide probe

<400> 33
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<210> 34
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<220>
 <223> Synthetic oligonucleotide probe

<400> 34
 tgagccagcc caggaactgc ttg 23

<210> 35
 <211> 50
 <212> DNA
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<220>
 <223> Synthetic oligonucleotide probe

<400> 35
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<210> 36
 <211> 1771
 <212> DNA
 <213> Homo Sapien

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 ctccctagag tccttcgtga agctttttat tcctaagagg agaaaatcag 200
 tcaccggcga aatcgtgctg attacaggag ctgggcatgg aattgggaga 250
 ctgactgcct atgaatttgc taaacttaaa agcaagctgg ttctctggga 300
 tataaataag catggactgg aggaaacagc tgccaaatgc aagggactgg 350
 gtgccaaggt tcataccttt gtggtagact gcagcaaccg agaagatatt 400
 tacagctctg caaagaaggt gaaggcagaa attggagatg ttagtatttt 450
 agtaaataat gctgggtgtag tctatacatc agatttggtt gctacacaag 500
 atcctcagat tgaaaagact tttgaagtta atgtacttgc acatttctgg 550
 actacaaagg catttcttcc tgcaatgacg aagaataacc atggccatat 600
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 cttactgttc aagcaagttt gctgctgttg gatttcataa aactttgaca 700
 gatgaactgg ctgccttaca aataactgga gtcaaaacaa catgtctgtg 750
 tcctaatttc gtaaacactg gcttcatcaa aaatccaagt acaagtttgg 800
 gaccactct ggaacctgag gaagtggtaa acaggctgat gcatgggatt 850
 ctgactgagc agaagatgat ttttattcca tcttctatag cttttttaac 900
 aacattggaa aggatccttc ctgagcgttt cctggcagtt ttaaaacgaa 950
 aaatcagtgt taagtttgat gcagttattg gatataaaat gaaagcgcaa 1000
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 tctaatagtg ccagaatttt aatgtttgaa cttctgtttt ttctaattat 1100
 cccattttct tcaatatcat ttttgaggct ttggcagtct tcatttacta 1150
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 tttattaaaa taatttccaa gattatttgt ggctcacctg aaggctttgc 1300
 aaaatttgta ccataaccgt ttatttaaca tatattttta tttttgattg 1350
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 agaaacttca agctctctaa ataaaatgaa ggactatata tagtggtatt 1450
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gccactctgt ttctgagag atacctcaca ttccaatgcc aaacatttct 1550
gcacagggaa gctagagggtg gatacacgtg ttgcaagtat aaaagcatca 1600
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<210> 37
<211> 300
<212> PRT
<213> Homo Sapien

<400> 37
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20 25 30
Arg Lys Ser Val Thr Gly Glu Ile Val Leu Ile Thr Gly Ala Gly
35 40 45
His Gly Ile Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys Leu Lys
50 55 60
Ser Lys Leu Val Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu
65 70 75
Thr Ala Ala Lys Cys Lys Gly Leu Gly Ala Lys Val His Thr Phe
80 85 90
Val Val Asp Cys Ser Asn Arg Glu Asp Ile Tyr Ser Ser Ala Lys
95 100 105
Lys Val Lys Ala Glu Ile Gly Asp Val Ser Ile Leu Val Asn Asn
110 115 120
Ala Gly Val Val Tyr Thr Ser Asp Leu Phe Ala Thr Gln Asp Pro
125 130 135
Gln Ile Glu Lys Thr Phe Glu Val Asn Val Leu Ala His Phe Trp
140 145 150
Thr Thr Lys Ala Phe Leu Pro Ala Met Thr Lys Asn Asn His Gly
155 160 165
His Ile Val Thr Val Ala Ser Ala Ala Gly His Val Ser Val Pro
170 175 180
Phe Leu Leu Ala Tyr Cys Ser Ser Lys Phe Ala Ala Val Gly Phe
185 190 195
His Lys Thr Leu Thr Asp Glu Leu Ala Ala Leu Gln Ile Thr Gly

00943664-083001

| | | |
|---|-----|-----|
| 200 | 205 | 210 |
| Val Lys Thr Thr Cys Leu Cys Pro Asn Phe Val Asn Thr Gly Phe | | |
| 215 | 220 | 225 |
| Ile Lys Asn Pro Ser Thr Ser Leu Gly Pro Thr Leu Glu Pro Glu | | |
| 230 | 235 | 240 |
| Glu Val Val Asn Arg Leu Met His Gly Ile Leu Thr Glu Gln Lys | | |
| 245 | 250 | 255 |
| Met Ile Phe Ile Pro Ser Ser Ile Ala Phe Leu Thr Thr Leu Glu | | |
| 260 | 265 | 270 |
| Arg Ile Leu Pro Glu Arg Phe Leu Ala Val Leu Lys Arg Lys Ile | | |
| 275 | 280 | 285 |
| Ser Val Lys Phe Asp Ala Val Ile Gly Tyr Lys Met Lys Ala Gln | | |
| 290 | 295 | 300 |

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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 38

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<210> 39

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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 39

atcccatgca tcagcctgtt tacc 24

<210> 40

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 40

gctgggtgtag tctatacatc agatttggtt gctacacaag atcctcag 48

<210> 41

<211> 1377

<212> DNA

<213> Homo Sapien



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gcgcgggggc tggagcacca ccaactggag ggtccggagt agcgagcgcc 150
ccgaaggagg ccatcgggga gccgggaggg gggactgcga gaggaccccg 200
gcgtccgggc tcccggtgcc agcgtatga ggccactcct cgtcctgctg 250
ctcctggggc tggcgcccg ctcgccccca ctggacgaca acaagatccc 300
cagcctctgc cgggggcacc ccggccttc aggcacgcgc ggccaccatg 350
gcagccaggg cttgccgggc cgcgatggcc gcgacggccg cgacggcgcg 400
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acctcgaggg gaccccgggc cgcgaggaga ggccgggacc gcggggccca 500
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aagcgctccg agagccgggt gcctccgccg tctgacgcac ccttgccctt 600
cgaccgcgtg ctggtgaacg agcagggaca ttacgacgcc gtcaccggca 650
agttcacctg ccagggtgct ggggtctact acttcgccgt ccatgccacc 700
gtctaccggg ccagcctgca gtttgatctg gtgaagaatg gcgaatccat 750
tgectctttc ttccagtttt tcggggggtg gcccaagcca gcctcgctct 800
cggggggggc catggtgagg ctggagcctg aggaccaagt gtgggtgcag 850
gtgggtgtgg gtgactacat tggcatctat gccagcatca agacagacag 900
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aaaaaaaaa aaaaaaaaaa aaaaaaa 1377

<210> 42

<211> 243
 <212> PRT
 <213> Homo Sapien

<400> 42

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Pro | Leu | Leu | Val | Leu | Leu | Leu | Gly | Leu | Ala | Ala | Gly | |
| 1 | | | | 5 | | | | 10 | | | | | 15 | |
| Ser | Pro | Pro | Leu | Asp | Asp | Asn | Lys | Ile | Pro | Ser | Leu | Cys | Pro | Gly |
| | | | | 20 | | | | 25 | | | | | | 30 |
| His | Pro | Gly | Leu | Pro | Gly | Thr | Pro | Gly | His | His | Gly | Ser | Gln | Gly |
| | | | | 35 | | | | 40 | | | | | | 45 |
| Leu | Pro | Gly | Arg | Asp | Gly | Arg | Asp | Gly | Arg | Asp | Gly | Ala | Pro | Gly |
| | | | | 50 | | | | 55 | | | | | | 60 |
| Ala | Pro | Gly | Glu | Lys | Gly | Glu | Gly | Gly | Arg | Pro | Gly | Leu | Pro | Gly |
| | | | | 65 | | | | 70 | | | | | | 75 |
| Pro | Arg | Gly | Asp | Pro | Gly | Pro | Arg | Gly | Glu | Ala | Gly | Pro | Ala | Gly |
| | | | | 80 | | | | 85 | | | | | | 90 |
| Pro | Thr | Gly | Pro | Ala | Gly | Glu | Cys | Ser | Val | Pro | Pro | Arg | Ser | Ala |
| | | | | 95 | | | | 100 | | | | | | 105 |
| Phe | Ser | Ala | Lys | Arg | Ser | Glu | Ser | Arg | Val | Pro | Pro | Pro | Ser | Asp |
| | | | | 110 | | | | 115 | | | | | | 120 |
| Ala | Pro | Leu | Pro | Phe | Asp | Arg | Val | Leu | Val | Asn | Glu | Gln | Gly | His |
| | | | | 125 | | | | 130 | | | | | | 135 |
| Tyr | Asp | Ala | Val | Thr | Gly | Lys | Phe | Thr | Cys | Gln | Val | Pro | Gly | Val |
| | | | | 140 | | | | 145 | | | | | | 150 |
| Tyr | Tyr | Phe | Ala | Val | His | Ala | Thr | Val | Tyr | Arg | Ala | Ser | Leu | Gln |
| | | | | 155 | | | | 160 | | | | | | 165 |
| Phe | Asp | Leu | Val | Lys | Asn | Gly | Glu | Ser | Ile | Ala | Ser | Phe | Phe | Gln |
| | | | | 170 | | | | 175 | | | | | | 180 |
| Phe | Phe | Gly | Gly | Trp | Pro | Lys | Pro | Ala | Ser | Leu | Ser | Gly | Gly | Ala |
| | | | | 185 | | | | 190 | | | | | | 195 |
| Met | Val | Arg | Leu | Glu | Pro | Glu | Asp | Gln | Val | Trp | Val | Gln | Val | Gly |
| | | | | 200 | | | | 205 | | | | | | 210 |
| Val | Gly | Asp | Tyr | Ile | Gly | Ile | Tyr | Ala | Ser | Ile | Lys | Thr | Asp | Ser |
| | | | | 215 | | | | 220 | | | | | | 225 |
| Thr | Phe | Ser | Gly | Phe | Leu | Val | Tyr | Ser | Asp | Trp | His | Ser | Ser | Pro |
| | | | | 230 | | | | 235 | | | | | | 240 |
| Val | Phe | Ala | | | | | | | | | | | | |

<210> 43
 <211> 24

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 43
 tacaggccca gtcaggacca gggg 24

 <210> 44
 <211> 18
 <212> DNA
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 <220>
 <223> Synthetic oligonucleotide probe

 <400> 44
 agccagcctc gctctcgg 18

 <210> 45
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 45
 gtctgcatc aggtctgg 18

 <210> 46
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 46
 gaaagaggca atggattcgc 20

 <210> 47
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
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 <400> 47
 gacttacact tgccagcaca gcac 24

 <210> 48
 <211> 45
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 48

ggagcaccac caactggagg gtccggagta gcgagcgccc cgaag 45

<210> 49

<211> 1876

<212> DNA

<213> Homo Sapien

<400> 49

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atccagcctg agaaacaagc cggttggtg agccaggtg tgcacggagc 100
acctgacggg cccaacagac ccattgctgca tccagagacc tccccctggcc 150
gggggcatct cctggctgtg ctcttggtccc tccttggcac cacctgggca 200
gaggtgtggc caccagct gcaggagcag gctccgatgg ccggagccct 250
gaacaggaag gagagtttct tgctcctctc cctgcacaac cgcttgcgca 300
gctgggtcca gccccctgcg gctgacatgc ggaggctgga ctggagtgc 350
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cccgagcctg gcatccggcc tgtggcgcac cctgcaagtg ggctggaaca 450
tgcagctgct gcccgcgggc ttggcgctct ttgttgaagt ggtcagccta 500
tggtttgcag aggggcagcg gtacagccac gcggcaggag agtgtgctcg 550
caacgccacc tgcaccact acacgcagct cgtgtgggccc acctcaagcc 600
agctgggctg tgggcggcac ctgtgctctg caggccagac agcgatagaa 650
gcctttgtct gtgctactc ccccgaggc aactgggagg tcaacgggaa 700
gacaatcacc ccctataaga aggttgctg gtgttcgctc tgcacagcca 750
gtgtctcagg ctgcttcaaa gcctgggacc atgcaggggg gctctgtgag 800
gtccccagga atccttgtcg catgagctgc cagaacctg gacgtctcaa 850
catcagcacc tgccactgcc actgtcccc tggctacacg ggcagatact 900
gccaagtgcg gtgcagcctg cagtgtgtgc acggccggtt ccgggaggag 950
gagtgtctgt gcgtctgtga catcggctac gggggagccc agtgtgccac 1000
caaggtgcat ttcccttcc acacctgtga cctgaggatc gacggagact 1050
gcttcatggt gtcttcagag gcagacacct attacagagc caggatgaaa 1100
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[illegible]

<211> 455

<213> Homo Sapien

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Pro Gln Leu Gln Glu Gln Ala Pro Met Ala Gly Ala Leu Asn Arg
35 40 45

Trp Val Gln Pro Pro Ala Ala Asp Met Arg Arg Leu Asp Trp Ser
65 70 75

Ile Pro Thr Pro Ser Leu Ala Ser Gly Leu Trp Arg Thr Leu Gln
95 100 105

38

| 110 | | | | | | | | 115 | | | | | | | | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Glu | Val | Val | Ser | Leu | Trp | Phe | Ala | Glu | Gly | Gln | Arg | Tyr | Ser | | | | Val | Glu | Val | Val | Ser | Leu | Trp | Phe | Ala | Glu | Gly | Gln | Arg | Tyr | Ser | Val | Glu | Val | Val | Ser | Leu | Trp | Phe | Ala | Glu | Gly | Gln | Arg | Tyr | Ser |
| | | | | 125 | | | | | 130 | | | | | 135 | | | | | | | | 140 | | | | | 145 | | | | | 150 | | | | | | | | | | | | | | | |
| His | Ala | Ala | Gly | Glu | Cys | Ala | Arg | Asn | Ala | Thr | Cys | Thr | His | Tyr | | | | His | Ala | Ala | Gly | Glu | Cys | Ala | Arg | Asn | Ala | Thr | Cys | Thr | His | Tyr | | | | | | | | | | | | | | | |
| | | | | 140 | | | | | 145 | | | | | 150 | | | | | | | | 140 | | | | | 145 | | | | | 150 | | | | | | | | | | | | | | | |
| Thr | Gln | Leu | Val | Trp | Ala | Thr | Ser | Ser | Gln | Leu | Gly | Cys | Gly | Arg | | | | Thr | Gln | Leu | Val | Trp | Ala | Thr | Ser | Ser | Gln | Leu | Gly | Cys | Gly | Arg | | | | | | | | | | | | | | | |
| | | | | 155 | | | | | 160 | | | | | 165 | | | | | | | | 155 | | | | | 160 | | | | | 165 | | | | | | | | | | | | | | | |
| His | Leu | Cys | Ser | Ala | Gly | Gln | Thr | Ala | Ile | Glu | Ala | Phe | Val | Cys | | | | His | Leu | Cys | Ser | Ala | Gly | Gln | Thr | Ala | Ile | Glu | Ala | Phe | Val | Cys | | | | | | | | | | | | | | | |
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| Thr | Gly | Asn | Leu | Gln | Thr | Gln | Arg | Tyr | Leu | Glu | Val | Gln | Tyr | Lys | | 230 | 235 | 240 |
| Pro | Gln | Val | His | Ile | Gln | Met | Thr | Tyr | Pro | Leu | Gln | Gly | Leu | Thr | | 245 | 250 | 255 |
| Arg | Glu | Gly | Asp | Ala | Leu | Glu | Leu | Thr | Cys | Glu | Ala | Ile | Gly | Lys | | 260 | 265 | 270 |
| Pro | Gln | Pro | Val | Met | Val | Thr | Trp | Val | Arg | Val | Asp | Asp | Glu | Met | | 275 | 280 | 285 |
| Pro | Gln | His | Ala | Val | Leu | Ser | Gly | Pro | Asn | Leu | Phe | Ile | Asn | Asn | | 290 | 295 | 300 |
| Leu | Asn | Lys | Thr | Asp | Asn | Gly | Thr | Tyr | Arg | Cys | Glu | Ala | Ser | Asn | | | | |

FOOEEBO"49E4660

| 305 | 310 | 315 |
|--|-----|-----|
| Ile Val Gly Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr Asp 320 | 325 | 330 |
| Pro Pro Thr Thr Ile Pro Pro Pro Thr Thr Thr Thr Thr Thr Thr 335 | 340 | 345 |
| Thr Thr Thr Thr Thr Thr Ile Leu Thr Ile Ile Thr Asp Ser Arg 350 | 355 | 360 |
| Ala Gly Glu Glu Gly Ser Ile Arg Ala Val Asp His Ala Val Ile 365 | 370 | 375 |
| Gly Gly Val Val Ala Val Val Val Phe Ala Met Leu Cys Leu Leu 380 | 385 | 390 |
| Ile Ile Leu Gly Arg Tyr Phe Ala Arg His Lys Gly Thr Tyr Phe 395 | 400 | 405 |
| Thr His Glu Ala Lys Gly Ala Asp Asp Ala Ala Asp Ala Asp Thr 410 | 415 | 420 |
| Ala Ile Ile Asn Ala Glu Gly Gly Gln Asn Asn Ser Glu Glu Lys 425 | 430 | 435 |
| Lys Glu Tyr Phe Ile 440 | | |

- <210> 62
- <211> 24
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Synthetic oligonucleotide probe
- <400> 62
- ggcttctgct gttgctcttc tccg 24
- <210> 63
- <211> 20
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Synthetic oligonucleotide probe
- <400> 63
- gtacactgtg accagtcagc 20
- <210> 64
- <211> 20
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Synthetic oligonucleotide probe

<400> 64

atcatcacag attccccgagc 20

<210> 65

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 65

ttcaatctcc tcaccttcca ccgc 24

<210> 66

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 66

atagctgtgt ctgcgtctgc tgcg 24

<210> 67

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 67

cgcggaactg atccccacag gtgatgggca gaatctgttt acgaaagacg 50

<210> 68

<211> 2555

<212> DNA

<213> Homo Sapien

<400> 68

ggggcggggtg gacgcggaact cgaacgcagt tgcttcggga cccaggaccc 50

cctcgggccc gaccgcccag gaaagactga ggccgcgggc tgccccgcc 100

ggctccctgc gccgcgcgcg cctcccggga cagaagatgt gctccagggt 150

ccctctgctg ctgccgctgc tctgtctact ggccctgggg cctgggggtgc 200

agggctgccc atccggctgc cagtgcagcc agccacagac agtcttctgc 250

actgcccgcc aggggaccac ggtgccccga gacgtgccac ccgacacggt 300

ggggctgtac gtctttgaga acggcatcac catgctcgac gcaagcagct 350

ttgccggcct gccgggcctg cagctcctgg acctgtcaca gaaccagatc 400

gcgggtctga gtgtgaggtg ccactcatgg gcttcccagg gcctggcctc 1900
 cagtcacccc tccacgcaaa gccctacatc taagccagag agagacaggg 1950
 cagctggggc cgggctctca gccagtgaga tggccagccc cctcctgctg 2000
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 agtgcctatg aggacagtgt ccgccctgcc ctccgcaacg tgcagtcctt 2200
 gggcacggcg ggccctgcc tgtgctggta acgcatgctt gggccctgct 2250
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 atttattctg ggaagatgtt tttcaaactc agagacaagg actttggttt 2500
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 aaaaa 2555

<210> 69
 <211> 598
 <212> PRT
 <213> Homo Sapien

<400> 69
 Met Cys Ser Arg Val Pro Leu Leu Leu Pro Leu Leu Leu Leu Leu
 1 5 10 15
 Ala Leu Gly Pro Gly Val Gln Gly Cys Pro Ser Gly Cys Gln Cys
 20 25 30
 Ser Gln Pro Gln Thr Val Phe Cys Thr Ala Arg Gln Gly Thr Thr
 35 40 45
 Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe
 50 55 60
 Glu Asn Gly Ile Thr Met Leu Asp Ala Ser Ser Phe Ala Gly Leu
 65 70 75
 Pro Gly Leu Gln Leu Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser
 80 85 90
 Leu Arg Leu Pro Arg Leu Leu Leu Leu Asp Leu Ser His Asn Ser
 95 100 105
 Leu Leu Ala Leu Glu Pro Gly Ile Leu Asp Thr Ala Asn Val Glu

| 110 | 115 | 120 |
|--|-----|-----|
| Ala Leu Arg Leu Ala Gly Leu Gly Leu Gln Gln Leu Asp Glu Gly 125 | 130 | 135 |
| Leu Phe Ser Arg Leu Arg Asn Leu His Asp Leu Asp Val Ser Asp 140 | 145 | 150 |
| Asn Gln Leu Glu Arg Val Pro Pro Val Ile Arg Gly Leu Arg Gly 155 | 160 | 165 |
| Leu Thr Arg Leu Arg Leu Ala Gly Asn Thr Arg Ile Ala Gln Leu 170 | 175 | 180 |
| Arg Pro Glu Asp Leu Ala Gly Leu Ala Ala Leu Gln Glu Leu Asp 185 | 190 | 195 |
| Val Ser Asn Leu Ser Leu Gln Ala Leu Pro Gly Asp Leu Ser Gly 200 | 205 | 210 |
| Leu Phe Pro Arg Leu Arg Leu Leu Ala Ala Ala Arg Asn Pro Phe 215 | 220 | 225 |
| Asn Cys Val Cys Pro Leu Ser Trp Phe Gly Pro Trp Val Arg Glu 230 | 235 | 240 |
| Ser His Val Thr Leu Ala Ser Pro Glu Glu Thr Arg Cys His Phe 245 | 250 | 255 |
| Pro Pro Lys Asn Ala Gly Arg Leu Leu Leu Glu Leu Asp Tyr Ala 260 | 265 | 270 |
| Asp Phe Gly Cys Pro Ala Thr Thr Thr Thr Ala Thr Val Pro Thr 275 | 280 | 285 |
| Thr Arg Pro Val Val Arg Glu Pro Thr Ala Leu Ser Ser Ser Leu 290 | 295 | 300 |
| Ala Pro Thr Trp Leu Ser Pro Thr Ala Pro Ala Thr Glu Ala Pro 305 | 310 | 315 |
| Ser Pro Pro Ser Thr Ala Pro Pro Thr Val Gly Pro Val Pro Gln 320 | 325 | 330 |
| Pro Gln Asp Cys Pro Pro Ser Thr Cys Leu Asn Gly Gly Thr Cys 335 | 340 | 345 |
| His Leu Gly Thr Arg His His Leu Ala Cys Leu Cys Pro Glu Gly 350 | 355 | 360 |
| Phe Thr Gly Leu Tyr Cys Glu Ser Gln Met Gly Gln Gly Thr Arg 365 | 370 | 375 |
| Pro Ser Pro Thr Pro Val Thr Pro Arg Pro Pro Arg Ser Leu Thr 380 | 385 | 390 |
| Leu Gly Ile Glu Pro Val Ser Pro Thr Ser Leu Arg Val Gly Leu 395 | 400 | 405 |

| | | |
|-----------------|---|-------------------------|
| Gln Arg Tyr Leu | Gln Gly Ser Ser Val | Gln Leu Arg Ser Leu Arg |
| 410 | 415 | 420 |
| Leu Thr Tyr Arg | Asn Leu Ser Gly Pro Asp Lys Arg Leu Val Thr | |
| 425 | 430 | 435 |
| Leu Arg Leu Pro | Ala Ser Leu Ala Glu Tyr Thr Val Thr Gln Leu | |
| 440 | 445 | 450 |
| Arg Pro Asn Ala | Thr Tyr Ser Val Cys Val Met Pro Leu Gly Pro | |
| 455 | 460 | 465 |
| Gly Arg Val Pro | Glu Gly Glu Glu Ala Cys Gly Glu Ala His Thr | |
| 470 | 475 | 480 |
| Pro Pro Ala Val | His Ser Asn His Ala Pro Val Thr Gln Ala Arg | |
| 485 | 490 | 495 |
| Glu Gly Asn Leu | Pro Leu Leu Ile Ala Pro Ala Leu Ala Ala Val | |
| 500 | 505 | 510 |
| Leu Leu Ala Ala | Leu Ala Ala Val Gly Ala Ala Tyr Cys Val Arg | |
| 515 | 520 | 525 |
| Arg Gly Arg Ala | Met Ala Ala Ala Ala Gln Asp Lys Gly Gln Val | |
| 530 | 535 | 540 |
| Gly Pro Gly Ala | Gly Pro Leu Glu Leu Glu Gly Val Lys Val Pro | |
| 545 | 550 | 555 |
| Leu Glu Pro Gly | Pro Lys Ala Thr Glu Gly Gly Gly Glu Ala Leu | |
| 560 | 565 | 570 |
| Pro Ser Gly Ser | Glu Cys Glu Val Pro Leu Met Gly Phe Pro Gly | |
| 575 | 580 | 585 |
| Pro Gly Leu Gln | Ser Pro Leu His Ala Lys Pro Tyr Ile | |
| 590 | 595 | |

<210> 70

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 70

ccctccactg cccaccgac tg 22

<210> 71

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 71
cggttctggg gacgttaggg ctcg 24

<210> 72

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 72

ctgcccaccg tccacctgcc tcaat 25

<210> 73

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 73

aggactgccc accgtccacc tgcctcaatg ggggcacatg ccacc 45

<210> 74

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide Probe

<400> 74

acgcaaagcc ctacatctaa gccagagaga gacagggcag ctggg 45

<210> 75

<211> 1077

<212> DNA

<213> Homo Sapien

<400> 75

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cgccccgccca cctccttget accccactct tgaaaccaca gctgttggca 100

gggtccccag ctcatgccag cctcatctcc tttcttgcta gccccaaaag 150

ggcctccagg caacatgggg ggcccagtca gagagccggc actctcagtt 200

gccctctggt tgagttgggg ggcagctctg ggggccgtgg cttgtgccat 250

ggctctgctg acccaacaaa cagagctgca gagcctcagg agagaggtga 300

gccggctgca ggggacagga ggccccctccc agaatgggga agggatatccc 350

tggcagagtc tcccggagca gagttccgat gccctggaag cctgggagaa 400

[illegible]

<211> 250

<213> Homo Sapien

Met Pro Ala Ser Ser Pro Phe Leu Leu Ala Pro Lys Gly Pro Pro
1 5 10 15

Leu Trp Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala
35 40 45

Glu Val Ser Arg Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly
65 70 75

Leu Glu Ala Trp Glu Asn Gly Glu Arg Ser Arg Lys Arg Arg Ala
95 100 105

Val Leu Thr Gln Lys Gln Lys Lys Gln His Ser Val Leu His Leu
110 115 120

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Pro | Ile | Asn | Ala | Thr | Ser | Lys | Asp | Asp | Ser | Asp | Val | Thr | Glu |
| | | | 125 | | | | | | 130 | | | | | 135 |
| Val | Met | Trp | Gln | Pro | Ala | Leu | Arg | Arg | Gly | Arg | Gly | Leu | Gln | Ala |
| | | | 140 | | | | | | 145 | | | | | 150 |
| Gln | Gly | Tyr | Gly | Val | Arg | Ile | Gln | Asp | Ala | Gly | Val | Tyr | Leu | Leu |
| | | | 155 | | | | | | 160 | | | | | 165 |
| Tyr | Ser | Gln | Val | Leu | Phe | Gln | Asp | Val | Thr | Phe | Thr | Met | Gly | Gln |
| | | | 170 | | | | | | 175 | | | | | 180 |
| Val | Val | Ser | Arg | Glu | Gly | Gln | Gly | Arg | Gln | Glu | Thr | Leu | Phe | Arg |
| | | | 185 | | | | | | 190 | | | | | 195 |
| Cys | Ile | Arg | Ser | Met | Pro | Ser | His | Pro | Asp | Arg | Ala | Tyr | Asn | Ser |
| | | | 200 | | | | | | 205 | | | | | 210 |
| Cys | Tyr | Ser | Ala | Gly | Val | Phe | His | Leu | His | Gln | Gly | Asp | Ile | Leu |
| | | | 215 | | | | | | 220 | | | | | 225 |
| Ser | Val | Ile | Ile | Pro | Arg | Ala | Arg | Ala | Lys | Leu | Asn | Leu | Ser | Pro |
| | | | 230 | | | | | | 235 | | | | | 240 |
| His | Gly | Thr | Phe | Leu | Gly | Phe | Val | Lys | Leu | | | | | |
| | | | 245 | | | | | 250 | | | | | | |

<210> 77
 <211> 2849
 <212> DNA
 <213> Homo Sapien

<400> 77
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 gggggggacc tgtggctgct cgtaccgccc cccaccctcc tcttctgcac 150
 tgccgtcttc cggaagacct tttccctgc tctgtttctt tcaccgagtc 200
 tgtgcatcgc cccggacctg gccgggagga ggcttgcccg gcgggagatg 250
 ctctaggggc ggcgcgagg gagcgccgg cgggacggag ggcccggcag 300
 gaagatgggc tcccgtggac agggactctt gctggcgtag tgctgctcc 350
 ttgcctttgc ctctggcctg gtctgagtc gtgtgcccc tgtccagggg 400
 gaacagcagg agtgggagg gactgaggag ctgccgtcgc ctccggacca 450
 tgccgagagg gctgaagaac aacatgaaaa atacaggccc agtcaggacc 500
 aggggetccc tgcttcccgg tgcttgcgct gctgtgacct cggtacctcc 550
 atgtaccgg cgaccgccgt gcccagatc aacatcacta tcttgaaagg 600
 ggagaagggt gaccgcggag atcgaggcct ccaagggaat tatggcaaaa 650

caggetcagc agggggccagg ggccacactg gacccaaagg gcagaagggc 700
 tccatggggg cccctgggga gcggtgcaag agccactacg ccgccttttc 750
 ggtgggcccgg aagaagccca tgcacagcaa ccactactac cagacggtga 800
 tcttcgacac ggagttcgtg aacctctacg accacttcaa catgttcacc 850
 ggcaagttct actgctacgt gcccggcctc tactttttca gcctcaacgt 900
 gcacacctgg aaccagaagg agacctacct gcacatcatg aagaacgagg 950
 aggaggtggt gatcttggtc gcgcagggtg gcgaccgcag catcatgcaa 1000
 agccagagcc tgatgctgga gctgcgagag caggaccagg tgtgggtacg 1050
 cctctacaag ggcgaaactg agaacgccat cttcagcgag gagctggaca 1100
 cctacatcac cttcagtggtc tacctgggtca agcacgccac cgagccctag 1150
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 tgacccacc gcctcttccc cgatccctgg actccgactc cctggctttg 1250
 gcattcagtg agacgccctg cacacacaga aagccaaagc gatcgggtgct 1300
 cccagatccc gcagcctctg gagagagctg acggcagatg aaatcaccag 1350
 ggcggggcac ccgcgagaac cctctgggac cttccgcggc cctctctgca 1400
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 cccaggggtgc ggcaccgcgg ctccagtcct tggaaataat taggcaaatt 1500
 ctaaaggctc caaaaggagc aaagtaaacc gtggaggaca aagaaaaggg 1550
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 ttttcagttg agactctgct taagagaaga tccaaagtta aagctctggg 1650
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ccctgccccat ggccacccca gactctgata tccaggaacc ccatagcccc 2550
tctccacctc accccatggt gatgccagg gtcactcttg ctaccgctg 2600
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ctccccagc tctttccaga aacattaaa ctcagaattg tgttttcaa 2849

<210> 78

<211> 281

<212> PRT

<213> Homo Sapien

<400> 78

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Ser | Arg | Gly | Gln | Gly | Leu | Leu | Leu | Ala | Tyr | Cys | Leu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ala | Phe | Ala | Ser | Gly | Leu | Val | Leu | Ser | Arg | Val | Pro | His | Val |
| | | | | 20 | | | | | 25 | | | | | 30 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Gly | Glu | Gln | Gln | Glu | Trp | Glu | Gly | Thr | Glu | Glu | Leu | Pro | Ser |
| | | | | 35 | | | | | 40 | | | | | 45 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Pro | Asp | His | Ala | Glu | Arg | Ala | Glu | Glu | Gln | His | Glu | Lys | Tyr |
| | | | | 50 | | | | | 55 | | | | | 60 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Pro | Ser | Gln | Asp | Gln | Gly | Leu | Pro | Ala | Ser | Arg | Cys | Leu | Arg |
| | | | | 65 | | | | | 70 | | | | | 75 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Cys | Asp | Pro | Gly | Thr | Ser | Met | Tyr | Pro | Ala | Thr | Ala | Val | Pro |
| | | | | 80 | | | | | 85 | | | | | 90 |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ile | Asn | Ile | Thr | Ile | Leu | Lys | Gly | Glu | Lys | Gly | Asp | Arg | Gly |
| | | | | 95 | | | | | 100 | | | | | 105 |

Asp Arg Gly Leu Gln Gly Lys Tyr Gly Lys Thr Gly Ser Ala Gly

| 110 | 115 | 120 |
|-------------------------------------|-------------------------|-----|
| Ala Arg Gly His Thr Gly Pro Lys Gly | Gln Lys Gly Ser Met Gly | |
| 125 | 130 | 135 |
| Ala Pro Gly Glu Arg Cys Lys Ser His | Tyr Ala Ala Phe Ser Val | |
| 140 | 145 | 150 |
| Gly Arg Lys Lys Pro Met His Ser Asn | His Tyr Tyr Gln Thr Val | |
| 155 | 160 | 165 |
| Ile Phe Asp Thr Glu Phe Val Asn Leu | Tyr Asp His Phe Asn Met | |
| 170 | 175 | 180 |
| Phe Thr Gly Lys Phe Tyr Cys Tyr Val | Pro Gly Leu Tyr Phe Phe | |
| 185 | 190 | 195 |
| Ser Leu Asn Val His Thr Trp Asn Gln | Lys Glu Thr Tyr Leu His | |
| 200 | 205 | 210 |
| Ile Met Lys Asn Glu Glu Glu Val Val | Ile Leu Phe Ala Gln Val | |
| 215 | 220 | 225 |
| Gly Asp Arg Ser Ile Met Gln Ser Gln | Ser Leu Met Leu Glu Leu | |
| 230 | 235 | 240 |
| Arg Glu Gln Asp Gln Val Trp Val Arg | Leu Tyr Lys Gly Glu Arg | |
| 245 | 250 | 255 |
| Glu Asn Ala Ile Phe Ser Glu Glu Leu | Asp Thr Tyr Ile Thr Phe | |
| 260 | 265 | 270 |
| Ser Gly Tyr Leu Val Lys His Ala Thr | Glu Pro | |
| 275 | 280 | |

<210> 79

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 79

tacaggccca gtcaggacca gggg 24

<210> 80

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 80

ctgaagaagt agaggccggg cacg 24

<210> 81

<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 81
cccgtgctt gcgtgctgt gaccccgta cctccatgta cccgg 45

<210> 82
<211> 2284
<212> DNA
<213> Homo Sapien

<400> 82
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ggcgccgggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150
cttcttaaag caaactaaga ccagagggag gattatcctt gacctttgaa 200
gacaaaaact aaactgaaat taaaatgtt cttcggggga gaaggagct 250
tgacttacac tttggttaata atttgcttcc tgacactaag gctgtctgct 300
agtcagaatt gcctcaaaaa gagtctagaa gatgttgtca ttgacatcca 350
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ctcaagaaga ctgcattaat tcttgctgtt caacaaaaaa catatcaggg 450
gacaaagcat gtaacttgat gatcttcgac actcgaaaaa cagctagaca 500
acccaactgc tacctatctt tctgtccaa cgaggaagcc tgtccattga 550
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ttgaccagaa atttgccaag ccaagagta cccaggaag attctctctt 650
acatggccaa ttttcacaag cagtcactcc cctagcccat catcacacag 700
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tttctctga tcaagaaata gctcatctgc tgctgaaaa tgtgagtgcg 900
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cttcccagcc acagctggcc accacagctc cacctgtaac cactgtcact 1050

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tccaacttaa ctttgaacac aggggaatgtg tataacccta ctgcactttc 1250
tatgtcaa at gtggagtctt ccactatgaa taaaactgct tcctgggaag 1300
gtagggaggc cagtccaggc agttcctccc agggcagtg tccagaaaat 1350
cagtacggcc ttccatttga aaaatggctt cttatcgggt ccctgctctt 1400
tggtgtcctg ttctcgttga taggcctcgt cctcctgggt agaatccttt 1450
cggaatcact ccgcaggaaa cgttactcaa gactggatta tttgatcaat 1500
gggatctatg tggacatcta aggatggaac tcggtgtctc ttaattcatt 1550
tagtaaccag aagcccaa at gcaatgagtt tctgctgact tgctagtctt 1600
agcaggaggt tgtattttga agacaggaaa atgccccctt ctgctttcct 1650
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tagcacgac tcggtctctc ccgcaacctc cgtctcctgg gttcaagoga 1750
ttctcctgcc tcagcctcct aagtatctgg gattacaggc atgtgccacc 1800
acacctgggt gatttttga tttttagtag agacgggggt tcaccatggt 1850
ggtcaggctg gtctcaaact cctgacctag tgatccaccc tcctcggcct 1900
cccaaagtgc tgggattaca ggcagagcc accacagctg gcccccttct 1950
gttttatgtt tggtttttga gaaggaatga agtgggaacc aaattaggta 2000
attttgggt atctgtctct aaaatattag ctaaaaacaa agctctatgt 2050
aaagtaataa agtataattg ccatataaat ttcaaaattc aactggcttt 2100
tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 2150
tggttccaga taaaatcaac tgtttatata aatttcta at ggatttgctt 2200
ttctttttat atggattcct ttaaaactta ttccagatgt agttccttcc 2250
aattaaatat ttgaataaat cttttgttac tcaa 2284

<210> 83
<211> 431
<212> PRT
<213> Homo Sapien

<400> 83
Met Phe Phe Gly Gly Glu Gly Ser Leu Thr Tyr Thr Leu Val Ile
1 5 10 15

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Cys | Phe | Leu | 20 | Leu | Arg | Leu | Ser | Ala | Ser | Gln | Asn | Cys | Leu | 30 | |
| Lys | Lys | Ser | Leu | 35 | Glu | Asp | Val | Val | Ile | Asp | Ile | Gln | Ser | Ser | Leu | 45 |
| Ser | Lys | Gly | Ile | 50 | Arg | Gly | Asn | Glu | Pro | Val | Tyr | Thr | Ser | Thr | Gln | 60 |
| Glu | Asp | Cys | Ile | 65 | Asn | Ser | Cys | Cys | Ser | Thr | Lys | Asn | Ile | Ser | Gly | 75 |
| Asp | Lys | Ala | Cys | 80 | Asn | Leu | Met | Ile | Phe | Asp | Thr | Arg | Lys | Thr | Ala | 90 |
| Arg | Gln | Pro | Asn | 95 | Cys | Tyr | Leu | Phe | Phe | Cys | Pro | Asn | Glu | Glu | Ala | 105 |
| Cys | Pro | Leu | Lys | 110 | Pro | Ala | Lys | Gly | Leu | Met | Ser | Tyr | Arg | Ile | Ile | 120 |
| Thr | Asp | Phe | Pro | 125 | Ser | Leu | Thr | Arg | Asn | Leu | Pro | Ser | Gln | Glu | Leu | 135 |
| Pro | Gln | Glu | Asp | 140 | Ser | Leu | Leu | His | Gly | Gln | Phe | Ser | Gln | Ala | Val | 150 |
| Thr | Pro | Leu | Ala | 155 | His | His | His | Thr | Asp | Tyr | Ser | Lys | Pro | Thr | Asp | 165 |
| Ile | Ser | Trp | Arg | 170 | Asp | Thr | Leu | Ser | Gln | Lys | Phe | Gly | Ser | Ser | Asp | 180 |
| His | Leu | Glu | Lys | 185 | Leu | Phe | Lys | Met | Asp | Glu | Ala | Ser | Ala | Gln | Leu | 195 |
| Leu | Ala | Tyr | Lys | 200 | Glu | Lys | Gly | His | Ser | Gln | Ser | Ser | Gln | Phe | Ser | 210 |
| Ser | Asp | Gln | Glu | 215 | Ile | Ala | His | Leu | Leu | Pro | Glu | Asn | Val | Ser | Ala | 225 |
| Leu | Pro | Ala | Thr | 230 | Val | Ala | Val | Ala | Ser | Pro | His | Thr | Thr | Ser | Ala | 240 |
| Thr | Pro | Lys | Pro | 245 | Ala | Thr | Leu | Leu | Pro | Thr | Asn | Ala | Ser | Val | Thr | 255 |
| Pro | Ser | Gly | Thr | 260 | Ser | Gln | Pro | Gln | Leu | Ala | Thr | Thr | Ala | Pro | Pro | 270 |
| Val | Thr | Thr | Val | 275 | Thr | Ser | Gln | Pro | Pro | Thr | Thr | Leu | Ile | Ser | Thr | 285 |
| Val | Phe | Thr | Arg | 290 | Ala | Ala | Ala | Thr | Leu | Gln | Ala | Met | Ala | Thr | Thr | 300 |
| Ala | Val | Leu | Thr | | Thr | Thr | Phe | Gln | Ala | Pro | Thr | Asp | Ser | Lys | Gly | |

| | | |
|-------------------------------------|-------------------------|-----|
| 305 | 310 | 315 |
| Ser Leu Glu Thr Ile Pro Phe Thr Glu | Ile Ser Asn Leu Thr Leu | |
| 320 | 325 | 330 |
| Asn Thr Gly Asn Val Tyr Asn Pro Thr | Ala Leu Ser Met Ser Asn | |
| 335 | 340 | 345 |
| Val Glu Ser Ser Thr Met Asn Lys Thr | Ala Ser Trp Glu Gly Arg | |
| 350 | 355 | 360 |
| Glu Ala Ser Pro Gly Ser Ser Ser Gln | Gly Ser Val Pro Glu Asn | |
| 365 | 370 | 375 |
| Gln Tyr Gly Leu Pro Phe Glu Lys Trp | Leu Leu Ile Gly Ser Leu | |
| 380 | 385 | 390 |
| Leu Phe Gly Val Leu Phe Leu Val Ile | Gly Leu Val Leu Leu Gly | |
| 395 | 400 | 405 |
| Arg Ile Leu Ser Glu Ser Leu Arg Arg | Lys Arg Tyr Ser Arg Leu | |
| 410 | 415 | 420 |
| Asp Tyr Leu Ile Asn Gly Ile Tyr Val | Asp Ile | |
| 425 | 430 | |

<210> 84
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 84
 agggaggatt atccttgacc tttgaagacc 30

 <210> 85
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 85
 gaagcaagtg cccagctc 18

 <210> 86
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide probe

 <400> 86
 cgggtccctg ctcttttg 18

<210> 87
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 87
cacgtagct gggagcgac tcac 24

<210> 88
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 88
agtgttaagtc aagctccc 18

<210> 89
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 89
gtttcctgac actaaggctg tctgctagtc agaattgcct caaaaagag 49

<210> 90
<211> 957
<212> DNA
<213> Homo Sapien

<400> 90
cctggaagat gcgccattg gctggtggcc tgctcaaggt ggtgttcgtg 50
gttttcgct ctttgtgtgc ctggtattcg gggtagctgc tcgagagct 100
cattccagat gcacccctgt ccagtgtgc ctatagcatc cgcagcatcg 150
gggagaggcc tgtcctcaaa gctccagtc ccaaaaggca aaaatgtgac 200
cactggactc cctgcccatc tgacacctat gctacaggt tactcagcgg 250
aggtggcaga agcaagtacg ccaaaatctg ctttgaggat aacctactta 300
tgggagaaca gctgggaaat gttgccagag gaataaacat tgccattgtc 350
aactatgtaa ctgggaatgt gacagcaaca cgatgttttg atatgtatga 400
aggcgataac tctggaccga tgacaaagtt tattcagagt gctgctccaa 450
aatccctgct cttcatggtg acctatgacg acggaagcac aagactgaat 500

aacgatgccca agaatgccat agaagcactt ggaagtaaag aaatcaggaa 550
 catgaaattc aggtctagct gggatatttat tgcagcaaaa ggcttggaac 600
 tcccttccga aattcagaga gaaaagatca accactctga tgctaagaac 650
 aacagatatt ctggctggcc tgcagagatc cagatagaag gctgcatacc 700
 caaagaacga agctgacact gcagggctct gagtaaagt gttctgtata 750
 aacaaatgca gctggaatcg ctcaagaatc ttatttttct aaatccaaca 800
 gcccatatth gatgagtatt ttgggtttgt tgtaaaccac tgaacatttg 850
 ctagtgtat caaatcttgg tacgcagtat ttttatacca gtattttatg 900
 tagtgaagat gtcaattagc aggaaactaa aatgaatgga aattcttaaa 950
 aaaaaaa 957

<210> 91
 <211> 235
 <212> PRT
 <213> Homo Sapien

<400> 91
 Met Arg Pro Leu Ala Gly Gly Leu Leu Lys Val Val Phe Val Val
 1 5 10 15
 Phe Ala Ser Leu Cys Ala Trp Tyr Ser Gly Tyr Leu Leu Ala Glu
 20 25 30
 Leu Ile Pro Asp Ala Pro Leu Ser Ser Ala Ala Tyr Ser Ile Arg
 35 40 45
 Ser Ile Gly Glu Arg Pro Val Leu Lys Ala Pro Val Pro Lys Arg
 50 55 60
 Gln Lys Cys Asp His Trp Thr Pro Cys Pro Ser Asp Thr Tyr Ala
 65 70 75
 Tyr Arg Leu Leu Ser Gly Gly Gly Arg Ser Lys Tyr Ala Lys Ile
 80 85 90
 Cys Phe Glu Asp Asn Leu Leu Met Gly Glu Gln Leu Gly Asn Val
 95 100 105
 Ala Arg Gly Ile Asn Ile Ala Ile Val Asn Tyr Val Thr Gly Asn
 110 115 120
 Val Thr Ala Thr Arg Cys Phe Asp Met Tyr Glu Gly Asp Asn Ser
 125 130 135
 Gly Pro Met Thr Lys Phe Ile Gln Ser Ala Ala Pro Lys Ser Leu
 140 145 150
 Leu Phe Met Val Thr Tyr Asp Asp Gly Ser Thr Arg Leu Asn Asn
 155 160 165

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ala | Lys | Asn | Ala | Ile | Glu | Ala | Leu | Gly | Ser | Lys | Glu | Ile | Arg |
| | | | 170 | | | | | | 175 | | | | | 180 |
| Asn | Met | Lys | Phe | Arg | Ser | Ser | Trp | Val | Phe | Ile | Ala | Ala | Lys | Gly |
| | | | 185 | | | | | | 190 | | | | | 195 |
| Leu | Glu | Leu | Pro | Ser | Glu | Ile | Gln | Arg | Glu | Lys | Ile | Asn | His | Ser |
| | | | 200 | | | | | | 205 | | | | | 210 |
| Asp | Ala | Lys | Asn | Asn | Arg | Tyr | Ser | Gly | Trp | Pro | Ala | Glu | Ile | Gln |
| | | | 215 | | | | | | 220 | | | | | 225 |
| Ile | Glu | Gly | Cys | Ile | Pro | Lys | Glu | Arg | Ser | | | | | |
| | | | 230 | | | | | | 235 | | | | | |

<210> 92

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 92

aatgtgacca ctggactccc 20

<210> 93

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 93

aggcttgga cttcccttc 18

<210> 94

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 94

aagattcttg agcgattcca gctg 24

<210> 95

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 95

aatccctgct cttcatggtg acctatgacg acggaagcac aagactg 47

<210> 96
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 96
ctcaagaagc acgcgtactg c 21

<210> 97
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 97
ccaacctcag cttccgctc tacga 25

<210> 98
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 98
catccaggct cgccactg 18

<210> 99
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 99
tggcaaggaa tgggaacagt 20

<210> 100
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 100
atgctgccag acctgatcgc agaca 25

<210> 101
<211> 19
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 101

gggcagaaat ccagccact 19

<210> 102

<211> 18

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 102

cccttcgcct gcttttga 18

<210> 103

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 103

gccatctaata tgaagcccat cttccca 27

<210> 104

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<210> 105

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 105

cctcggtctc ctcactgtg a 21

<210> 106

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

TOEBO "49E4660

<223> Synthetic oligonucleotide probe

<400> 106

tggcccagct gacgagccct 20

<210> 107

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 107

ctcataggca ctcggttctg g 21

<210> 108

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 108

tggctcccag cttggaaga 19

<210> 109

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 109

cagctcttgg ctgtctccag tatgtaccca 30

<210> 110

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 110

gatgcctctg ttctgcaca t 21

<210> 111

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 111

ggattctaatacgcactcactatagggctgc cgcaccccc ttcaactg 48

<210> 112

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 112

ctatgaaatt aaccctcact aaagggaccg cagctgggtg accgtgta 48

<210> 113

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 113

ggattctaatacgcactcactatagggccgc cccgccacct cct 43

<210> 114

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 114

ctatgaaatt aaccctcact aaagggactc gagacaccac ctgaccca 48

<210> 115

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 115

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<210> 116

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide probe

<400> 116

ctatgaaatt aaccctcact aaagggacta gggggtggga atgaaaag 48

<210> 117

<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 117
ggattctaatac gactcact atagggcccc cctgagctct cccgtgta 48

<210> 118
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 118
ctatgaaatt aaccctcact aaaggggaagg ctgccactg gtcgtaga 48

<210> 119
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 119
ggattctaatac gactcact atagggcaag gagccgggac ccaggaga 48

<210> 120
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 120
ctatgaaatt aaccctcact aaagggaggg ggcccttggt gctgagt 47